

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A method of selecting a route for communicating information in a communication network, the method comprising:
receiving a connectivity metric for each of a plurality of links defining each of a plurality of routes that connect a start node with an end node, each link of the plurality of links including a first node and a second node, wherein the first node is a first type of node selected from a first master node, a first slave node, and a first multiple network participant node, wherein the second node is a second type of node selected from a second master node, a second slave node, and a second multiple network participant node, and further wherein the received connectivity metric for a link of the plurality of links is determined based on the first type of node and the second type of node;
determining a total connectivity metric for each of the plurality of routes based on the received connectivity metric for each of the plurality of links defining each of the plurality of routes; and
selecting a route in a communication network for communicating information between the start node and the end node from the plurality of routes based on the determined total connectivity metric.
2. (Previously Presented) The method of claim 1 wherein, if the first node is the first master node in a sub-network of the communication network and the second node is the second slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.
3. (Previously Presented) The method of claim 1 wherein, if the second node is the second master node in a sub-network of the communication network and the first node is the first slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

4. (Previously Presented) The method of claim 1 wherein the first multiple network participant node comprises a first master multiple network participant node and a first slave multiple network participant node wherein the first master multiple network participant node participates in a sub-network of the communication network as a master node, and further wherein the first slave multiple network participant node does not participate in the communication network as a master node.

5. (Currently Amended) The method of claim 4 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving $P_i * MAX(M_i, M_j)$ where P_i is a number of master nodes that the first node connects to in the communication network, M_i is a first number of slave nodes in the first sub-network, and M_j is a second number of slave nodes in the second sub-network.

6. (Currently Amended) The method of claim 4 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving $MAX(M_k + 1, M_i)$ where M_k is a first number of slave nodes in the first sub-network, and M_i is a second number of slave nodes in the second sub-network.

7. (Currently Amended) The method of claim 4 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving $P_i * MAX(\frac{B_0}{B_i}, \frac{B_0}{B_j})$ where P_i is a number of master nodes that the first node connects to in the communication network, B_i is a first estimated bandwidth of a master node of the first sub-network, B_j is a second estimated

bandwidth of the second node, and B_0 is a maximum bandwidth between the master node of the first sub-network and a slave node of the first sub-network.

8. (Previously Presented) The method of claim 7 further comprising estimating the first estimated bandwidth and estimating the second estimated bandwidth.

9. (Previously Presented) The method of claim 8 wherein estimating the first estimated bandwidth comprises use of a model of a network medium access control algorithm.

10. (Previously Presented) The method of claim 8 wherein estimating the first estimated bandwidth comprises use of a model of a Bluetooth network medium access control algorithm.

11. (Currently Amended) The method of claim 4 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network, wherein the received connectivity metric is calculated at least in part by solving $MAX(\frac{B_0}{B_k} + 1, \frac{B_0}{B_i})$ where B_i is a first estimated bandwidth of the second node, B_k is a second estimated bandwidth of the first node, and B_0 is a maximum bandwidth between the first node and a slave node of the first sub-network.

12. (Previously Presented) The method of claim 1 wherein determining the total connectivity metric of a route of the plurality of routes comprises identifying a maximum connectivity metric of the plurality of links defining the route.

13. (Previously Presented) The method of claim 1 further comprising communicating the received connectivity metric to a node of the communication network.

14. (Previously Presented) The method of claim 13 wherein communicating the received connectivity metric comprises inserting the calculated connectivity metric into a routing protocol packet.

15. (Previously Presented) The method of claim 14 wherein the received connectivity metric is inserted into the routing protocol packet in place of a hop number.

16. (Previously Presented) The method of claim 1, wherein the connectivity metric for each of the plurality of links is based on a ratio of a maximum link bandwidth to an estimated link bandwidth, wherein the maximum link bandwidth is a link bandwidth between a master node and a slave node when there is only one slave node connected to the master node, and wherein the estimated link bandwidth is an estimate of a current bandwidth capacity of a respective link of the plurality of links.

17. (Previously Presented) A computer-readable medium including computer-readable instructions that, upon execution by a processor, cause the processor to select a route for communicating information in a communication network, the instructions configured to cause a computing device to:

receive a connectivity metric for each of a plurality of links defining each of a plurality of routes that connect a start node with an end node, each link of the plurality of links including a first node and a second node, wherein the first node is a first type of node selected from a first master node, a first slave node, and a first multiple network participant node, wherein the second node is a second type of node selected from a second master node, a second slave node, and a second multiple network participant node, and further wherein the received connectivity metric for a link of the plurality of links is determined based on the first type of node and the second type of node;

determine a total connectivity metric for each of the plurality of routes based on the received connectivity metric for each of the plurality of links defining each of the plurality of routes; and

select a route in a communication network for communicating information between the start node and the end node from the plurality of routes based on the determined total connectivity metric.

18. (Previously Presented) The computer-readable medium of claim 17 wherein, if the first node is the first master node in a sub-network of the communication network and the second node is the second slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

19. (Previously Presented) The computer-readable medium of claim 17 wherein, if the second node is the second master node in a sub-network of the communication network and the first node is the first slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

20. (Previously Presented) The computer-readable medium of claim 17 wherein the first multiple network participant node comprises a first master multiple network participant node and a first slave multiple network participant node wherein the first master multiple network participant node participates in a sub-network of the communication network as a master node, and further wherein the first slave multiple network participant node does not participate in the communication network as a master node.

21. (Currently Amended) The computer-readable medium of claim 20 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving $P_i * MAX(M_i, M_j)$ where P_i is a number of master nodes that the first node connects to in the communication network, M_i is a first number of slave nodes in the first sub-network, and M_j is a second number of slave nodes in the second sub-network.

22. (Currently Amended) The computer-readable medium of claim 20 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving $MAX(M_k + 1, M_i)$ where M_k is a first number of slave nodes in the first sub-network, and M_i is a second number of slave nodes in the second sub-network.

23. (Currently Amended) The computer-readable medium of claim 20 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving

$$P_i * MAX(\frac{B_0}{B_i}, \frac{B_0}{B_j}) \text{ where } P_i \text{ is a number of master nodes that the first node connects to in the}$$

communication network, B_i is a first estimated bandwidth of a master node of the first sub-network, B_j is a second estimated bandwidth of the second node, and B_0 is a maximum bandwidth between the master node of the first sub-network and a slave node of the first sub-network.

24. (Previously Presented) The computer-readable medium of claim 17 wherein determining the total connectivity metric of a route of the plurality of routes comprises identifying a maximum connectivity metric of the plurality of links defining the route.

25. (Previously Presented) The computer-readable medium of claim 17, wherein the connectivity metric for each of the plurality of links is based on a ratio of a maximum link bandwidth to an estimated link bandwidth, wherein the maximum link bandwidth is a link bandwidth between a master node and a slave node when there is only one slave node connected to the master node, and wherein the estimated link bandwidth is an estimate of a current bandwidth capacity of a respective link of the plurality of links.

26. (Previously Presented) A device for selecting a route for communicating information in a communication network, the device comprising:

a data processor, the data processor configured to

receive a connectivity metric for each of a plurality of links defining each of a plurality of routes that connect a start node with an end node, each link of the plurality of links including a first node and a second node, wherein the first node is a first type of node selected from a first master node, a first slave node, and a first multiple network participant node, wherein

the second node is a second type of node selected from a second master node, a second slave node, and a second multiple network participant node, and further wherein the received connectivity metric for a link of the plurality of links is determined based on the first type of node and the second type of node;

determine a total connectivity metric for each of the plurality of routes based on the received connectivity metric for each of the plurality of links defining each of the plurality of routes; and

select a route in a communication network for communicating information between the start node and the end node from the plurality of routes based on the determined total connectivity metric; and

a communication interface, the communication interface configured to communicate the information to a communication network based on the selected route.

27. (Previously Presented) The device of claim 26 wherein, if the first node is the first master node in a sub-network of the communication network and the second node is the second slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

28. (Previously Presented) The device of claim 26 wherein the first multiple network participant node comprises a first master multiple network participant node and a first slave multiple network participant node wherein the first master multiple network participant node participates in a sub-network of the communication network as a master node, and further wherein the first slave multiple network participant node does not participate in the communication network as a master node.

29. (Currently Amended) The device of claim 28 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, wherein the received connectivity metric is calculated at least in part by solving $P_i * MAX(M_i, M_j)$ where P_i is a

number of master nodes that the first node connects to in the communication network, M_i is a first number of slave nodes in the first sub-network, and M_j is a second number of slave nodes in the second sub-network.

30. (Currently Amended) The device of claim 28 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving $MAX(M_k + 1, M_i)$ where M_k is a first number of slave nodes in the first sub-network, and M_i is a second number of slave nodes in the second sub-network.

31. (Currently Amended) The device of claim 28 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, ~~wherein~~ the received connectivity metric is calculated at least in part by solving $P_i * MAX(\frac{B_0}{B_i}, \frac{B_0}{B_j})$ where P_i is a number of master nodes that the first node connects to in the communication network, B_i is a first estimated bandwidth of a master node of the first sub-network, B_j is a second estimated bandwidth of the second node, and B_0 is a maximum bandwidth between the master node of the first sub-network and a slave node of the first sub-network.

32. (Previously Presented) The device of claim 26 wherein determining the total connectivity metric of a route of the plurality of routes comprises identifying a maximum connectivity metric of the plurality of links defining the route.

33. (Previously Presented) The device of claim 26, wherein the connectivity metric for each of the plurality of links is based on a ratio of a maximum link bandwidth to an estimated link bandwidth, wherein the maximum link bandwidth is a link bandwidth between a master node and a slave node when there is only one slave node connected to the master node, and

wherein the estimated link bandwidth is an estimate of a current bandwidth capacity of a respective link of the plurality of links.